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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,552	11/19/2003	Junlian Hu	007198-556	5057
21839 7590 06/24/2010 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER SERGENT, RADON A	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 06/24/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/715,552

Applicant(s)

HU ET AL.

Examiner

Rabon Sergeant

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2010 and 14 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,9,11,12,16-20 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,9,11,12,16-20 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. Claims 1-3, 9, 11, 12, 16-20, and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants have amended the specification and claims to recite that the prepolymer forming reactants are present such that the $[\text{NCO}]/[\text{OH}]$ molar ratio is (about) 1.5 to (about) 5.0, and applicants state that the previously amended molar ratio range is now an actual molar ratio of 1.5 to 5.0. The examiner can only interpret this to mean that for every 1.5 moles of NCO groups there are 5.0 moles of OH groups. Again, the examiner stresses that this is clearly stated within the second paragraph of page 7 of the response of June 14, 2010. Therefore, in view of this statement and the ratio as amended, the examiner takes the position that such a ratio cannot yield an isocyanate terminated prepolymer, because the ratio does not allow for any excess of isocyanate groups which must be present to yield such a prepolymer. While applicant only specifies a prepolymer within the claims, without reference to it being isocyanate terminated, isocyanate termination must be present in order for the prepolymer to chain extend with the disclosed chain extenders, which are OH group-containing. Other than their erroneous $[\text{NCO}]/[\text{OH}]$ ratio, applicants provide no description whatsoever of a hydroxyl group terminated prepolymer or how such a hydroxyl group terminated prepolymer can be extended using the disclosed OH group-containing chain extenders. Furthermore, applicants $[\text{NCO}]/[\text{OH}]$ ratio as amended and argued does not correspond to applicants' own Examples 1 and 2. Within Example 1, the $[\text{NCO}]/[\text{OH}]$ ratio of the reactants that yield the prepolymer is 3.3:1. Within Example 2,

the $[NCO]/[OH]$ ratio of the reactants that yield the prepolymer is approximately 2.72:1. These ratios are a far cry from the currently claimed 1.5:5.0 (0.3:1.0). Therefore, applicants' own examples are not representative of the argued ratio or claims, as amended. The examiner explained the relation of the $[NCO]/[OH]$ ratio to prepolymer formation in the previous response, and further explained why ratios that mandate an excess of hydroxyl groups cannot yield an isocyanate terminated prepolymer; however, this explanation has apparently been ignored by applicants. In summation, the examiner emphasizes that the claimed and argued ratio cannot yield the prepolymers required of the invention.

2. Claims 1-3, 9, 11, 12, 16-20, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As aforementioned within paragraph 1, the claims specify a $[NCO]/[OH]$ ratio that cannot yield isocyanate terminated prepolymers. Since the production of such prepolymers appears to be paramount to applicants' invention, the claimed range renders the claims indefinite. Again, applicants have not addressed the core issue, the issue being that a ratio that does mandate an excess of isocyanate groups cannot yield the required prepolymer.

3. The prior art rejections have been withdrawn solely for the reason that the prior art fails to disclose the claimed $[NCO]/[OH]$ ratio (it is noted that this is not surprising, since the claimed ratio is considered unworkable in the context of the invention); however, it must be noted that the 35 USC 112 issues raised by applicants' amendment and argument pertaining to the $[NCO]/[OH]$ ratio are so pervasive and severe that further in depth analysis of the prior art of

record is precluded at this time. Should the issues be adequately addressed, the prior art of record will be reconsidered.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

/Rabon Sergent/
Primary Examiner, Art Unit 1796